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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/565,201

08/02/2006

Andrew Maunder

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EXAMINER

RODRIGUEZ, JOSEPH C

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/565,201	<b>Applicant(s)</b> MAUNDER, ANDREW	
	<b>Examiner</b> JOSEPH C. RODRIGUEZ	<b>Art Unit</b> 3653	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 is/are pending in the application.  
     4a) Of the above claim(s) 10,12,13 and 15-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9,11 and 14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____.                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____.  | 6) <input type="checkbox"/> Other: ____.                          |

***Final Rejection***

Applicant's arguments filed 1/18/2011 have been fully considered but they are not persuasive for reasons detailed below.

The 35 U.S.C. 112 rejections are maintained or modified as follows:

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-9, 11 and 14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Here, the amended language “using a mechanical sorting device” (claim 1) is not properly enabled. That is, Applicant teaches that conventional sorting machines use light beams to compare external appearances when determining defective pellets (para. 19-21) and, in his own device, that an optical scanner may be used or a “mechanical sorting device” (para. 44), but does not adequately teach how a mechanical sorting device could be made or implemented in the presently claimed invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-9, 11 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding these claims, the language “using a mechanical sorting device” (claim 1) is unclear and thus indefinite. Further, Applicant’s specification fails to clarify this issue. Here, Applicant appears to define the mechanical sorting device as an alternate to an optical scanner and describes that the mechanical device may be configured for sorting based on weight and symmetry. In the sorting arts, the use of weight sorting is well known and it is also well known to use optical sorting methods to determine symmetry, thus as Applicant fails to give a specific example of a mechanical sorting device it is unclear if optical and mechanical sorting devices overlap in scope, or otherwise.

Examiner requests clarification and recommends amending the claims with language that clearly sets forth the claimed invention. In the interim, and in the interests of compact prosecution, the claims have been interpreted as set forth below.

The prior art rejections are maintained or modified as follows:

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Harris (GB 2,033,881).

Harris teaches a method for cleaning a batch of granular materials comprising removing a portion of the loose particles from the batch, including removing loose contaminants and fines that are separable from both the pellets and the defective pellets, the fines being of the same material as the pellets and the loose contaminants having material characteristics that are undesirable for the product (p. 1 teaching application of sorting device to agricultural as well as mineral products, such as ores; p. 2, ln. 76+ teaching removal of dust and grit from products to be sorted; fig. 1 near 15 showing air washing);

after the removing of a portion of the loose particles including fines and contaminants, detecting in the batch the defective pellets and additional loose contaminants, the defective pellets being inextricably attached to embedded contaminants (Fig. 1 near 21; p. 1, ln. 128+ teaching detecting via optical inspection);

after the detecting the defective pellets and the additional loose contaminants, removing the defective pellets and the additional loose contaminants from the batch (p. 2, ln. 5+). Here, Examiner contends that when the device is used for sorting minerals, such as pieces of ore, that the dust and grit removed will contain small particles of the ore as it does not discriminate and will remove all material of a certain size/density that can be dislodged and carried away, thus the removing of a portion of the loose particles from the batch can be reasonably be regarded as including the removal of clean fines.

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Further, Harris teaches that the granular materials are singulated for inspection (Fig. 1, near 20; p. 127 +), thus both defective pellets and additional loose contaminants will be detected via the optical inspection system. Further, the optical inspection device taught by Harris can be regarded as a mechanical sorting device as it implements mechanical parts.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 8, 11 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harris (GB 2,033,881) in view of Ikeda (US 6,817,474) and Wilks et al. ("Wilks")(US 4,448,680).

Harris as set forth above teaches all that is claimed except for expressly teaching the removal of ferrous material by magnetic means before or after the removing of the defective pellets from the batch; optically scanning the batch for evidence of the embedded contaminants, and that the pellets are used to extrude at least one of materials listed in claim 14. Further, under an alternate interpretation, the application of the Harris sorting device to the removal of defective pellets and additional loose contaminants or the use of a mechanical sorting device may not be regarded as taught.

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These features, however, are well-known in the sorting arts. For instance, Ikeda discloses removing further contaminants containing ferrous material from the batch before the removing of the defective pellets from the batch (col. 2, ln. 22+ and fig. 1; magnet 9) and detecting of the defective pellets and additional loose contaminants by optically scanning the batch for evidence of the embedded contaminants (col. 4, ln. 25+) for the purpose of effectively removing metal/iron items in addition to damaged or unwanted pellets (col. 1, ln. 45+). Wilks further teaches that it is well known to use optical as well as weight-based sorting methods when analyzing pellets (Fig. 1A near stations 127, 129, 131, 133; col. 14, 15). It would thus be obvious to one with ordinary skill in the art to modify the base reference with these prior art teachings to arrive at the claimed invention. The rationale for this obviousness determination can be found in the prior art itself as cited above. Further, the rationale for applying the device and method of Harris to specific types of resins, particles and contaminants can be found in the fact that weight based sorting is a functional equivalent and in the nature of the problem being solved. In the instant case, the problem revolves around effectively cleaning granular materials, such as pellets. Harris solves this problem by teaching the removal of dust and grit from the granules prior to an optical inspection that would remove defective granules as well as additional loose contaminants. Ikeda discloses use with resin pellets. Thus, it logically follows that one with skill in the art when facing the same problem as Applicant and dealing with a variety of pellet, particle and contaminant types would know to apply the methods taught by Harris and Ikeda. Further, the claimed feature of using a mechanical sorting device or placing the magnetic removal before the

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removing of the defective pellets from the batch can be regarded as a mere design choice controlled by the design incentives and/or economic considerations involved in this type of subject matter. This is especially applicable in the sorting arts as the type of material to be sorted and the desired degree of sortation can control variations in the specific device dimensions, features and/or sorting steps. Moreover, these variations are predictable to one of ordinary skill in the art. See MPEP 2143. Here, each operation still achieves its independent predictable result and doing so would lower the workload of the magnetic separator as it would not be exposed to dust and unwanted pellets that would already be removed. Further, the prior art discussed and cited demonstrates the level of sophistication of one with ordinary skill in the art and that these modifications would be well within this skill level. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the invention of Harris for the reasons set forth above.

Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harris (GB 2,033,881) in view of Ikeda (US 6,817,474) and Wilks et al. ("Wilks")(US 4,448,680) as applied to the claims above, and further in view of Oder (US 6,540,088).

Harris et al. as set forth above teach all that is claimed except for expressly teaching that at least one magnet comprises a rare earth material and the rare earth material comprises at least neodymium-iron-boron. Oder discloses the use of a neodymium-iron-boron magnet in a magnetic separator (col. 8, ln. 33+) in order to achieve large forces (col. 8, ln. 35+). It would thus be obvious to one with ordinary skill



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in the art to modify the base reference with these prior art teachings to arrive at the claimed invention. The rationale for this obviousness determination can be found in the prior art itself as cited above. Further, the modification to arrive at the claimed invention would merely involve the substitution/addition of well-known elements with no change in their respective functions. Moreover, the use of prior art elements according to their known functions is a predictable variation that would yield predictable results, and thus cannot be regarded as a non-obvious modification when the modification is already commonly implemented in the prior art. See MPEP 2143. Further, the prior art discussed and cited demonstrates the level of sophistication of one with ordinary skill in the art and that these modifications would be well within this skill level. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the invention of Harris et al. for the reasons set forth above.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harris (GB 2,033,881) in view of Ikeda (US 6,817,474) and Wilks et al. ("Wilks")(US 4,448,680) as applied to the claims above, and further in view of Paulson (US 4,631,124).

Harris et al. as set forth above teach all that is claimed except for expressly teaching disrupting electrostatic bonds between the loose particles and the pellets and defective pellets. Paulson discloses disrupting electrostatic bonds between the loose particles and the pellets and defective pellets (col. 2, ln. 40+) in order to release the dust from primary particulate material for removal (Id). It would thus be obvious to one with

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ordinary skill in the art to modify the base reference with these prior art teachings to arrive at the claimed invention. The rationale for this obviousness determination can be found in the prior art itself as cited above. Further, the modification to arrive at the claimed invention would merely involve the substitution/addition of well-known elements with no change in their respective functions. Moreover, the use of prior art elements according to their known functions is a predictable variation that would yield predictable results, and thus cannot be regarded as a non-obvious modification when the modification is already commonly implemented in the prior art. See MPEP 2143. Further, the prior art discussed and cited demonstrates the level of sophistication of one with ordinary skill in the art and that these modifications would be well within this skill level. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the invention of Harris et al. for the reasons set forth above.

### ***Response to Arguments***

Applicant's arguments that the prior art fails to teach the claimed features are unpersuasive in view of the newly formulated rejections set forth above. Consequently, the claims stand rejected.

Examiner has maintained the prior art rejections, statutory rejections and drawing objections as previously stated and as modified above. Applicant's amendment necessitated any new grounds of rejection presented in this Office action. Accordingly,

**THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### ***Conclusion***

Any references not explicitly discussed above but made of record are considered relevant to the prosecution of the instant application.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Joseph C Rodriguez** whose telephone number is **571-272-3692** (M-F, 9 am – 6 pm, EST). The Supervisory Examiner is Stefanos Karmis, **571-272-6744**. The **Official** fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

The examiner's **UNOFFICIAL Personal fax number** is **571-273-3692**.

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Further, information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system.

Status information for published applications may be obtained from either Private PMR or Public PAIR. Status information for unpublished applications is available through Private PMR only. For more information about the PAIR system, see

<http://pair-direct.uspto.gov>

Should you have questions on access to the Private PMR system, contact the Electronic Business Center (EBC) at **866-217-9197** (Toll Free).

/Joseph C Rodriguez/  
Primary Examiner, Art Unit 3653  
Jcr

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March 28, 2011